WHAT IS CLAIMED IS:

1. An optical film comprising:

a polarizing plate; and

a brightness enhancement film;

wherein a maximum chromaticity difference $\Delta xy(max)$ of in–plane transmitted light of the optical film is about 0.008 or smaller after the optical film is attached to a glass plate and allowed to stand at 70°C for 120 hours.

2. The optical film according to claim 1, wherein the brightness enhancement film comprises a layer having a circularly polarized light separating function, and a quarter wavelength plate.

3. The optical film according to claim 2, wherein an in–plane retardation (Δnd) with respect to incident light from a normal direction of the quarter wavelength plate satisfies

$\Delta nd(450\ nm) / \Delta nd(550\ nm) \leq 1.02$,

where Δnd is $(nx - ny) \cdot d$, nx and ny respectively represent refractive indices in an X–axis direction and a Y–axis direction in the quarter wavelength plate, with the X–axis direction being an axial direction exhibiting a maximum refractive index within a plane of the quarter wavelength plate and the Y–axis direction being an axial direction perpendicular to the X axis within the plane, d represents a thickness of the quarter wavelength plate, $\Delta nd(450\ nm)$ represents an in–plane retardation at a wavelength of 450 nm, and $\Delta nd(550\ nm)$ represents an in–plane retardation at a wavelength of 550 nm.

4. The optical film according to claim 2, wherein an in–plane retardation ($\Delta nd'$) with respect to incident light from a direction inclined by 45° from a normal direction of the quarter wavelength plate satisfies

$\Delta nd'(450\ nm) / \Delta nd'(550\ nm) \leq 1.04$,

where $\Delta nd'$ is $(nx' - ny') \cdot d$, nx' and ny' respectively represent refractive indices in an X'–axis direction and a Y'–axis direction with respect to the incident light from the direction inclined by 45° from the normal direction (a Z'–axis direction) of the quarter wavelength plate, with the X'–axis direction being an axial direction within a plane of the quarter

wavelength plate perpendicular to an incident direction of the incident light inclined by 45° from the Z'–axis direction and the Y'–axis direction being a direction perpendicular to the incident direction and the X'–axis direction, d represents a thickness of the quarter wavelength plate, $\Delta nd'(450\ nm)$ represents an in–plane retardation at a wavelength of 450 nm, and $\Delta nd'(550\ nm)$ represents an in–plane retardation at a wavelength of 550 nm.

5. The optical film according to claim 2, wherein the quarter wavelength plate comprises

a retardation film satisfying $nx^r > ny^r = nz^r$, and

a liquid crystal layer satisfying $nz^c > nx^c \geq ny^c$,

where "nx^r, ny^r, nz^r" and "nx^c, ny^c, nz^c" indicate refractive indices in an X–axis direction, a Y–axis direction and a Z–axis direction in the retardation film and the liquid crystal layer, respectively, with the X–axis direction being an axial direction exhibiting a maximum refractive index within a plane of the retardation film or the liquid crystal layer, the Y–axis direction being an axial direction perpendicular to the X axis within the plane and the Z–axis direction being a thickness direction perpendicular to the X axis and the Y axis.

6. The optical film according to claim 2, wherein the quarter wavelength plate is a film comprising a polymer having a photoelastic coefficient of $40 \times 10^{-12}\ m^2/N$ or smaller.

7. The optical film according to claim 6, wherein the quarter wavelength plate is a liquid crystal layer comprising a nematic liquid crystal.

8. The optical film according to claim 2, wherein constituent molecules of the layer having the circularly polarized light separating function are oriented in such a manner as to have a cholesteric structure.

9. The optical film according to claim 8, wherein the layer having the circularly polarized light separating function is a cholesteric liquid crystal layer.

10. The optical film according to claim 1, wherein the polarizing plate

and the brightness enhancement film are laminated via a pressure sensitive adhesive or an adhesive.

11. The optical film according to claim 1, having a diagonal length of 250 mm or larger.

12. The optical film according to claim 1, wherein the $\Delta xy(max)$ is 0.005 or smaller.

13. The optical film according to claim 1, wherein the $\Delta xy(max)$ is 0.003 or smaller.

14. A liquid crystal display comprising:
the optical film according to claim 1; and
a liquid crystal cell;
wherein the optical film is disposed on at least one surface of the liquid crystal cell.

15. An image display apparatus comprising the optical film according to claim 1.

16. A quarter wavelength plate, to be used in a brightness enhancement film, wherein an in–plane retardation (Δnd) with respect to incident light from a normal direction of the quarter wavelength plate satisfies
$\Delta nd(450\ nm) / \Delta nd(550\ nm) \leq 1.02$,
where Δnd is $(nx - ny) \cdot d$, nx and ny respectively represent refractive indices in an X–axis direction and a Y–axis direction in the quarter wavelength plate, with the X–axis direction being an axial direction exhibiting a maximum refractive index within a plane of the quarter wavelength plate and the Y–axis direction being an axial direction perpendicular to the X axis within the plane, d represents a thickness of the quarter wavelength plate, $\Delta nd(450\ nm)$ represents an in–plane retardation at a wavelength of 450 nm, and $\Delta nd(550\ nm)$ represents an in–plane retardation at a wavelength of 550 nm.

17. A quarter wavelength plate, to be used in a brightness enhancement film, wherein the quarter wavelength plate is a film comprising a polymer

having a photoelastic coefficient of 40×10^{-12} m^2/N or smaller.